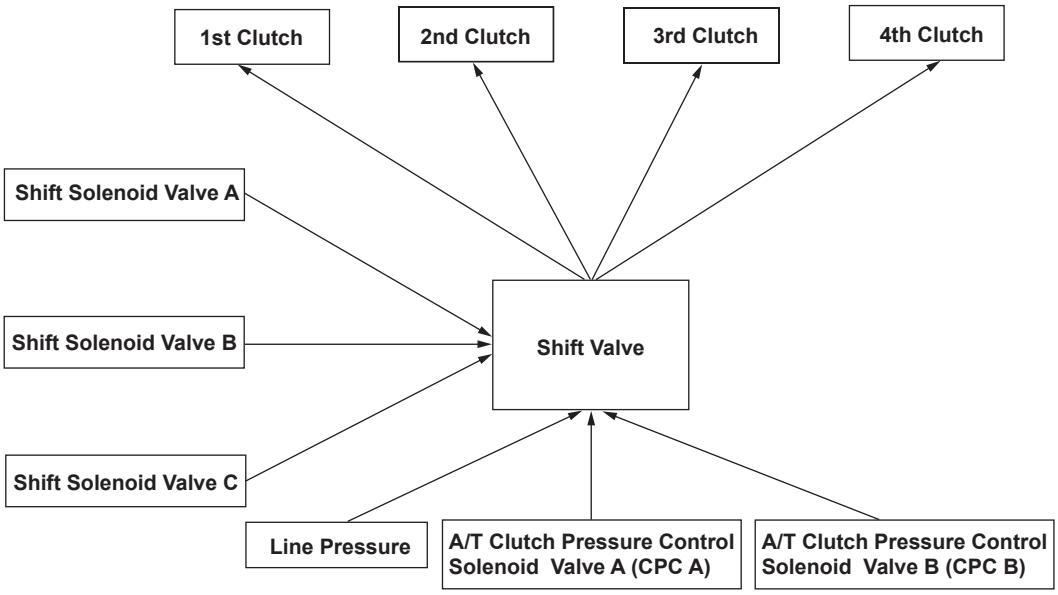
Advanced Diagnostics

DTC P0730: Problem in Shift Control System



P0730-9875

Hydraulic pressure supply to the clutch by shift solenoid valve output (D4 position)

Shift solenoid valve / Clutch									
	A	OFF	OFF	ON	ON	ON	ON	OFF	OFF
	B	ON	ON	ON	ON	OFF	OFF	OFF	OFF
	C	OFF	ON	ON	OFF	OFF	ON	ON	OFF
1st Clutch		CPC A	LINE	CPC A					
2nd Clutch				CPC B	LINE	CPC B			
3rd Clutch						CPC A	LINE	CPC A	
4th Clutch								CPC B	LINE

CPC: Clutch Pressure Control pressure

General Description

Hydraulic pressure to each clutch is controlled by the shift valve. The shift valve activates according to the combination of shift solenoid valves A, B, and C ON/OFF status. Hydraulic pressure supply in D4 position is shown above. The powertrain control module (PCM) computes the actual ratio of mainshaft and countershaft revolutions of the transmission. If a difference between the actual ratio and the commanded gear occurs when shifting to each gear position, a malfunction in the shift solenoid valve or the hydraulic pressure system is detected and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Under the Enable Conditions
Sequence	None
Duration	12 seconds
DTC Type	One drive cycle, MIL ON, D4 indicator OFF

Enable Conditions

Condition	Minimum	Maximum
Engine coolant temperature	159ºF (71ºC)	212ºF (100ºC)
Engine speed	500 rpm	—
Vehicle speed	10 mph (17 km/h)	—
Shift lever position	D4 or D3	
No active DTCs	ECT, TP, Mainshaft speed sensor, Countershaft speed sensor, Shift solenoid valves A, B, and C, Transmission range switch, Torque converter clutch solenoid valve, A/T clutch pressure control solenoid valves A and B	

Malfunction Threshold

Actual gear position ratio with respect to target gear position ratio;
Mainshaft speed x (times) target position gear ratio / (divided by) countershaft speed is less than 80% or more than 125% for at least 12 seconds.

Driving Pattern

1. Start the engine. Hold the engine at 3,000 rpm with no load (in park or neutral) until the radiator fan comes on.
2. Drive the vehicle at a speed of 10 mph (17 km/h) or more in D4 position, and stay in each gear position for at least 17 seconds.

- If you have difficulty duplicating the DTC, retest after turning off electrical components such as the audio system and the A/C.
- Drive the vehicle in this manner only if the traffic regulations and ambient conditions allow.

Diagnosis Details

Conditions for illuminating the MIL
When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored.

Conditions for clearing the MIL
The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.